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ZANZIBAR PROTECTORATE

ANNUAL

MEDICAL AND SANITARY REPORT

FOR THE

year ended 31st December, 1945

Price: Shs. 1/50

OFFICE OF THE
SENIOR MEDICAL OFFICER-IN-CHARGE,
MEDICAL AND SANITARY SERVICES,

Zanzibar, 9th July, 1946.

Sir,

I have the honour to submit for the information of His Excellency the British Resident and for transmission to the Right Honourable the Secretary of State, the Medical Report on the Health and Sanitary conditions of the Zanzibar Protectorate for the year 1945.

I have the honour to be,

Sir,


Your obedient servant,

J. C. EARL,
*Senior Medical Officer-in-Charge,
Medical and Sanitary Services.*

THE HONOURABLE

CHIEF SECRETARY TO THE GOVERNMENT,

ZANZIBAR.



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GENERAL REVIEW.

Mr. C. E. Roberts, O.B.E., Dr. D. D. McCarthy and Dr. A. C. Pilkington were serving in the forces at the commencement of the year. Mr. Roberts returned to duty in May. The award of the O.B.E. to this officer for his services with the Zanzibar Field Ambulance in Burma is recorded with pleasure. Dr. Pilkington resigned in June and Dr. Cran was transferred to Malaya in September. At the end of the year there were only three medical officers out of an establishment of seven available for duty in the Protectorate and one of these was carrying out the duties of Specialist Officer. The fact that the medical service was maintained during this period reflects great credit on the staff of the department.

There was a shortage of European nursing sisters during the year. Fortunately it was possible to recruit temporary nursing sisters in Zanzibar. Mrs. Hoggan who recently retired from the nursing staff was employed as sister tutor.

An improved scale of pay for nurses and attendants was introduced during the year. The standard of applicants for training has improved. It is satisfactory to note that there are now six Indian girls in training; three as midwives and three as nurses. It is regrettable that no Arab girls have come forward for training.

Sixteen attendants and nurses sat for the junior examination in November. All passed in nursing the lowest mark being 64 per centum but seven failed in anatomy. Seven of the ten candidates in the senior examination were successful. Both candidates failed in the final midwifery examination but three out of four passed the junior examination. These results are the most encouraging in recent years.

The policy of prevention has been maintained but the shortage of staff has been so great that practically no rural sanitation has been undertaken in Zanzibar.

The training of sanitary inspectors had again to be postponed.

PUBLIC HEALTH.

The total number of cases seen at the station hospitals and dispensaries was:—

New cases	...	114,951
Re-attendances	...	294,176
Total attendances	...	409,127

GENERAL DISEASES.

The cases referred in the following review of the return of sickness include only those treated by Medical Officers or Assistant Medical Officers. The returns of certain diseases from other units will be referred to in the text.

1. *Epidemic, endemic and infectious diseases*:—There were 12,636 cases with 82 deaths in hospital.

2. *General Diseases*:—2,386 cases were reported.

3. *Diseases of the nervous system and organs of sense*:—There were 3,060 in this group. Diseases of the eye numbered 2,677 of which 108 were cases of trachoma.

4. *Affections of the circulatory system*:—There were 1,923 cases. 95 cases of heart disease with 15 deaths were treated in hospital.

5. *Affections of the respiratory system*:—6,495 cases were reported. There were 449 cases of pneumonia of which 230 cases with 27 deaths were treated in hospital.

6. *Diseases of the digestive system*:—There were 9,317 cases in this group.

7. *Diseases of the genito-urinary system*:—1,936 cases of non-venereal disease of the genito-urinary system were recorded.

8. *Puerperal state and diseases of infancy*:—1,038 cases were treated.

9. *Affections of the skin, cellular tissue and the organs of locomotion*:—14,279 cases many of which were tropical ulcers were reported.

10. *Affections produced by external causes*:—There were 7,384 cases.

COMMUNICABLE DISEASES.

(a) Insect-Borne.

Malaria:—7,372 cases were reported and 505 with 18 deaths were treated in hospital.

Blackwater fever:—27 cases with three deaths were treated by Government Medical Officers.

(b) Infectious Diseases.

Smallpox:—No case occurred during the year.

The following vaccinations were performed:—

Zanzibar town	...	16,896
Rural areas	...	317
Pemba	...	5,003

Tuberculosis:—96 cases were notified 137 cases with 40 deaths were under treatment in Government Hospitals and in Walezo.

Syphilis and yaws.—517 cases of syphilis and 3,020 cases of yaws were seen at district dispensaries. The disease still appears to be most prevalent in the north of Zanzibar island.

Gonorrhoea:—The number of cases treated was 795.

Leprosy:—20 cases were notified. Lepers are accommodated in the leper settlements at Walezo and Makondeni. The former is under the management of the Catholic Mission, the latter is a Government institution. The two settlements dealt with the following lepers:—

	Walezo.	Makondeni.
Remaining on 31st December, 1944	... 44	71
Admitted	... 15	13
Discharged	... 8	4
Died	... 5	15
Remaining on 31st December, 1945	... 46	65

All huts and latrines at Walezo were repaired and whitewashed.

At Makondeni one new house, one kitchen and four new two seater pit latrines were built during the year.

VITAL STATISTICS.

Estimated population:—The estimated population is approximately 250,000.

Births and deaths:—2,827 births and 2,333 deaths were registered in Zanzibar and 2,271 births and 1,518 deaths in Pemba.

Infantile mortality:—172 deaths were registered.

Still-birth rate:—The number registered was 18.

Maternity mortality:—The registered maternal deaths were 13.

HYGIENE AND SANITATION.

Night soil disposal:—The methods of disposing of night soil have remained the same during the year.

A consulting engineer visited Zanzibar in November to advise on the construction of a water-borne sewage and drainage system.

Number of new septic tanks constructed	...	15
Water-flushed closets installed in place of pit latrines	...	39
Cess-pits abolished	...	16
Number of cess-pits emptied and cleared	...	83

Scavenging and refuse disposal:—Most of the refuse in Zanzibar town is disposed of by controlled tipping, animal offal and refuse of a similar nature is incinerated.

Number of cartloads collected and taken to controlled dumps	...	100,674
Number of cartloads collected and taken to destructors	...	3,209

Water Supplies:—Routine tests show that a high degree of purity was maintained throughout the year.

Number of samples taken for chemical analysis	...	15
Number of samples taken for bacteriological examination	...	19

Rural Sanitation:—Sanitary inspectors continued to visit rural areas during the year but the shortage of medical officers has prevented the expansion which it was hoped would take place.

School Hygiene:—Medical inspection of school children was carried out during the year at 25 schools. 2,811 children were examined and the service was extended to 12 grant aided schools in Zanzibar. The condition of the school children was similar to that referred to in the last annual report.

MOSQUITO CONTROL.

Inspections of dwelling houses in Zanzibar town:—

European	...	5,812
Indian	...	110,942
Arab	...	66,356
African	...	237,501
Others	...	36,412
Vacant houses	...	9,253
Mosques, temples and other religious buildings	...	5,833

Other inspections made:—

Burrow pits	...	922
Swamps	...	826
Crab-holes	...	5,110
Anti-malaria drains	...	2,328
Dhows	...	168
Lighters	...	34
Boats	...	468
Wells and water holes	...	1,432
Pools	...	1,696
Gardens	...	10,420
Graveyards	...	7,196
Open lands	...	10,595
Trees	...	3,673
Mosquito traps	...	163

BREEDING PLACES

<i>Anopheles.</i>	<i>Aedes.</i>
120	3,498

ADULT MOSQUITOES

<i>Anopheles.</i>	<i>Aedes.</i>
4,424	576

Action taken.

Notices served	...	3,505
New concrete anti-malaria drains laid (lineal feet)	...	230
Low lying land raised (square yards)	...	10,257
Number of oilings:—		
Drains	...	2,241
Tanks	...	509
Cess-pits	...	35,592
Sullage pits	...	9,212
Swamps and pools	...	230
Pools or excavations filled in	...	9,212
Holes in trees filled in	...	92
Crab-holes oiled and demolished	...	134
Number of spraying with paris green of pools	...	13
Eaves gutters removed or re-aligned	...	6
Depressions on road filled	...	36
Water tanks rendered mosquito proof	...	7
Wells rendered mosquito proof	...	1
Shells, coconut husks, tins, etc. removed	...	17,921

MOSQUITO CONTROL PROTECTIVE BELT OUTSIDE ZANZIBAR TOWNSHIP.

822 feet of new earth drains were dug at Tomondo, Migombani and Maruhubi.

110 depressions and shallow wells were filled in and levelled in different parts.

82,674 feet of earth drains were twice regraded and kept in running order.

24,496 coconut shells and 3,145 empty tins were collected.

25 Ships arriving from ports other than Mombasa, Dar-es-Salaam and Tanga were inspected. Also 4,232 dhows, lighters and boats were examined.

A civil air service commenced in Zanzibar on 1st of September this year, and 69 aeroplanes, which came from endemic areas, were sprayed with "Insecticide R 399".

The following adult mosquitoes were caught in controlled stations:—

<i>Anopheles.</i>	<i>Aedes.</i>
106	1,039

Breeding places found were:—

<i>Anopheles.</i>	<i>Aedes.</i>
448	247

PEMBA.

In Wete all cultivation in swamps within the township has been stopped, the ground levelled and the area planted with *Pterocarpus* trees which are growing well.

In Chake Chake more than 400 *Pterocarpus* trees and 100 *Eucalyptus* have been planted in Tibirizi swamp. 10,000 square yards of Tibirizi swamp were filled and levelled. 6,000 square yards of land was reclaimed by dumping town refuse at Mji Mpya. Rice cultivation has been stopped in the Tibirizi swamp.

At Mkoani cultivation in the swamp has been stopped, the area has been levelled, 1,500 feet of old drains have been relaid and 120 feet of new drains laid. 270 *Pterocarpus* trees have been planted.

PORT HEALTH WORK AND ADMINISTRATION.

During the year 227 ships and 1,159 dhows called at Zanzibar and were boarded for health inspection. 341 aeroplanes landed on the aerodrome. 17,036 immigrants arrived and 17,262 emigrants left. In addition 487 immigrants arrived and 475 emigrants left Zanzibar by air. 4,414 vaccinations were carried out on ships and dhows. In addition 10,151 emigrants were vaccinated.

21 persons found suffering from trachoma were declared to be prohibited immigrants.

15 immigrants were allowed to land under surveillance during the year.

Plague:—Zanzibar remained free of plague during the year under review. 14,754 rats were caught during the year. 2,668 spleen smears were examined and found negative.

Quarantine Island:—The East African Quarantine Station was maintained throughout the year.

Thirty-five cases of relapsing fever were diagnosed among crews and passengers of dhows from Southern Arabia. The diseases was the louse borne variety.

Crew and passengers of three dhows were held in quarantine for varying periods. No cases have so far occurred among the local population.

REPORT OF THE DENTAL SURGEON.

Every school was examined during 1945 and of the 2,927 children examined 1,528 were treated. It was not possible to treat every child who required the services of a dental surgeon.

The Assistant Dental Surgeon was on leave for two months during 1945 and Pemba had the services of a dental surgeon for 113 working days.

The following is the summary of work done during 1945.

	Fillings.	Extrac- tions.	Scale and Polish.	Root Filling.
Schools	... 3,156	1,291	91	5
Wives and officials	... 546	577	163	9
Native out-patients	... —	9,595	—	—
Total	... 3,702	11,463	254	14

WOMEN'S CLINIC AND MATERNITY AND CHILD WELFARE.

Clinics for women and for infant welfare were held in Zanzibar and Pemba.

A. Zanzibar Clinic.

The following table gives a summary of the work in 1945.

	New cases.	Re-attendances.
General cases	... 7,945	28,262
Ante-natal	... 326	838
Infant welfare	... 232	—
Total attendances	... 8,503	29,100

Patients admitted to the maternity hospital numbered 209.

B. Zanzibar Rural Clinics.

	New cases.	Re-attendances.
Mkokotoni	... 800	1,389
Mwera	... 289	1,446
Selem	... 490	2,319
Total attendances	... 1,579	5,154

C. Pemba - Wete Clinic.

	New cases.	Re-attendances.
Ante-natal cases	... 156	175
Infant welfare	... 104	402
Total attendances	... 260	577

There were 96 patients admitted to the maternity ward.

D. Pemba - Chake Chake Clinic.

	New cases.	Re-attendances.
Out-patients	... 3,273	14,617
Ante-natal cases	... 66	397
Infant welfare clinic	... 82	1,275
Total attendances	... 3,421	16,289

Patients admitted to the maternity hospital numbered 63.

EYE CLINIC.

The following cases were treated during the year:—

New cases	... 1,952
Re-attendances	... 10,610
Total attendances	... 12,562

67 major and 49 minor operations were carried out. In addition 476 candidates for government employment were examined.

Three were 72 cases of trachoma and the majority of cases of entropion and many corneal ulcers treated were the late results of this disease.

The work of the Eye Clinic shows a tendency to expand, but it is considerably hampered by lack of space and pressure of other work.

LABORATORY.

1. Zanzibar.

The total number of examinations performed was 27,680.

Training:—Two learner attendants were engaged during the year making a total of 3 now in training.

General Remarks—Dysentery:—*Bact. shiga* was isolated on eleven occasions. Previous to this, this organism had not been recognized in Zanzibar.

The work of the laboratory is summarized briefly below:—

Parasitological examinations	... 16,856
Bacteriological examinations	... 4,948
Serological examinations	... 1,721
Histological examinations	... 24
Medico legal examinations	... 9
Post-mortem examinations	... 36
General (blood, biochemical, etc.)	... 4,077
Special (Aschein Zondek test and Veterinary)	... 9
	27,680

Preparation of culture media and fowl typhoid vaccine was performed on behalf of Agricultural Department.

Sterilization of gloves, bandages, salines, etc. was carried out for Zanzibar Hospital.

Sterilized saline solution was supplied to the Health Office for use in yellow fever inoculations

REPORT ON THE CONDITIONS IN PRISONS AND OTHER INSTITUTIONS.

A. Prisons.

Zanzibar:—There were 1,366 new attendances and 4,147 re-attendances at the prison infirmary during the year and 173 prisoners were admitted to hospital.

The general health of the prisoners was satisfactory and no outbreaks of infectious disease. There were 228 cases of malaria reported during the year.

Number of prisoners admitted	... 789
Daily average in prison	... 188.79
Daily average on sick list	... 13.24

Pemba:—

Number of prisoners admitted	... 635
Daily average in prison	... 43.66
Daily average on sick list	... 3.21

B. Mental Hospital.

Remaining on 31st December, 1944	... 65
Admitted	... 17
Discharged	... 5
Deaths	... 2
Remaining on 31st December, 1945	... 75

C. Walezo Institution.

		Pauper Infirmary.	Tuberculosis Asylum.
Remaining on 31st December, 1944	...	128	12
Admitted	...	227	35
Discharged	...	147	9
Deaths	...	58	25
Reamining on 31st December, 1945	...	150	13

D. Makondeni Leper Settlement—Pemba.

The re-building programme was continued during 1945; one complete house, one kitchen and four new two stance pit latrines were built. During the year 15 lepers died and 13 lepers were admitted leaving a balance of 65 at the end of 1945.

FINANCE.

A. EXPENDITURE—MEDICAL DEPARTMENT.		£
Personal Emoluments	...	27,747
Other Charges : General Stores	...	1,375
Drugs, Dental and Surgical Requisites, etc.	...	5,206
Maintenance of Patients	...	9,035
Sanitation Labour	...	1,238
Miscellaneous Services	...	7,397
Total		51,998
B. EXPENDITURE—MUNICIPALITY.		£
Personal Emoluments	...	2,398
Other charges :		
Equipment and Stores	...	139
Sanitation Labour	...	4,056
Total		6,593

C. REVENUE.		£
Hospital Fees and Sale of Drugs, etc.	...	2,375
Dental Fees	...	220
Sale of Drugs to the public	...	3,159
Contribution from dependencies towards Quarantine Station	...	1,512
Total		7,266

LEGISLATION AFFECTING THE PUBLIC HEALTH ENACTED DURING THE YEAR.

- PUBLIC HEALTH DECREE, CAP. 60:
- Public Health (Prevention of Yellow Fever) Rules, 1945.
- The Quarantine (Aircraft) Rules, 1945.
- The Quarantine (Amendment) Rules, 1945.
- The Quarantine (Aircraft) (Amendment) Rules, 1945.
- The Public Health (Prevention of Yellow Fever) Revocation Rules, 1945.
- The Public Health (Declaration of an Infected Area) Revocation Orders, 1945.
- The Public Health (Prevention of Small-pox) (Revocation) Rules, 1945.
- A Decree Relating to Midwives No. 12 of 1945.

This table includes only those diseases which were diagnosed in hospitals under the charge of a medical officer or assistant medical officer.

TABLES I AND II.

Return of Diseases and Deaths for the Year 1945.

DISEASES	Remaining in Hospital at end of Dec. 1944	Yearly Admissions	Total Cases Treated	Total Deaths	Remaining in Hospital on 31st Dec. 1945	All Cases including both In- and Out- Patients
1. Enteric Group—						
(a) Typhoid fever	...	10	10	2	2	19
(b) Paratyphoid fever	...	...	...	...	...	...
2. Typhus fever	...	...	...	...	...	...
3. Relapsing fever	...	70	70	...	...	103
4. Undulant fever	...	...	...	...	...	...
5. Small-pox	...	...	...	...	...	...
6. Measles	...	27	27	...	...	102
7. Scarlet fever	...	...	...	...	...	...
8. Whooping cough	...	1	1	...	...	101
9. Diphtheria	...	1	1	...	...	3
10. Influenza—						
(a) With respiratory complications	...	2	2	...	...	784
(b) Without respiratory complications	...	5	5	...	...	195
11. Cholera	...	...	...	...	...	...
12. Dysentery—						
(a) Amœbic	...	12	12	...	1	24
(b) Bacillary	...	7	7	...	...	15
(c) Unclassified	...	25	25	5	1	67
13. Plague—						
(a) Bubonic	...	...	...	...	...	...
(b) Pneumonic	...	...	...	...	...	...
(c) Septicæmic	...	...	...	...	...	...
14. Acute poliomyelitis	...	4	4	...	...	4
15. Encephalitis lethargica	...	...	...	...	...	...
16. Cerebro-spinal fever	...	...	...	1	...	2
17. Rabies	...	...	...	1	...	...
18. Tetanus	...	8	8	5	...	16
19. Tuberculosis of the respiratory system	19	110	129	39	15	238
20. Other tuberculous diseases	...	8	8	1	1	16
21. Leprosy	44	17	61	5	46	82
22. Venereal diseases—						
(a) Syphilis	1	58	59	2	3	517
(b) Gonorrhœa	2	91	93	...	4	795
(c) Other venereal diseases	...	5	5	...	...	255
23. Yellow fever	...	...	...	...	...	...
24. Malaria—						
(a) Benign tertian	...	16	16	...	...	362
(b) Subtertian	3	166	169	9	8	2,102
(c) Quartan	2	2	4	1	...	110
(d) Unclassified	8	321	329	8	8	4,798
25. Blackwater fever	...	14	14	3	...	27
26. Kala-azar	...	...	...	...	...	...
27. Trypanosomiasis	...	...	...	...	...	...
28. Yaws	6	56	62	...	6	3,020
29. Other protozoal diseases	...	6	6	...	...	37
30. Ancylostomiasis	10	248	258	26	15	7,119
31. Schistosomiasis	1	28	29	...	1	583
32. Other helminthic diseases	...	5	5	...	...	151
33. Other infectious and/or parasitic diseases	...	32	32	...	...	497
34. Cancer and other tumours—						
(a) Malignant	...	29	29	8	...	76
(b) Non-malignant	1	34	35	1	3	182
(c) Undetermined	...	4	4	...	...	5
35. Rheumatic conditions	...	8	8	...	...	599
36. Diabetes	...	21	21	4	...	59
37. Scurvy	...	1	1	...	1	2
38. Beri-beri	...	1	1	...	...	1
39. Pellagra	...	...	...	...	...	...
40. Other diseases—						
(a) Nutritional	5	26	31	6	...	520
(b) Endocrine glands and general	...	22	22	1	...	124
41. Diseases of the blood and blood-forming organs	...	74	74	24	1	778
42. Acute and chronic poisoning	...	9	9	1	1	19
43. Cerebral hæmorrhage	1	9	10	8	1	21
44. Other diseases of the nervous system	2	67	69	5	3	452
45. Trachoma	...	9	9	...	...	117
46. Other diseases of the eye and annæxa	1	100	101	...	...	2,670
47. Diseases of the ear and mastoid sinus	2	23	25	...	...	880
48. Diseases of the circulatory system—						
(a) Heart diseases	...	36	36	15	2	131
(b) Other circulatory diseases	3	45	48	1	1	306
49. Bronchitis	...	98	98	3	4	3,210
50. Pneumonia—						
(a) Broncho-pneumonia	...	26	26	3	...	60
(b) Lobar-pneumonia	5	184	189	24	9	582
(c) Otherwise defined	...	20	20	...	...	42
51. Other diseases of the respiratory system	1	97	98	10	1	3,032
52. Diarrhœa and enteritis—						
(a) Under two years of age	...	5	5	4	2	120
(b) Over two years of age	...	49	49	4	3	516
Carried forward	117	2,352	2,469	230	143	36,648

TABLES I AND II.—(Contd.)

DISEASES			Remaining in Hospital at end of Dec. 1944	Yearly Admissions	Total Cases Treated	Total Deaths	Remaining in Hospital on 31st Dec. 1945	All Cases including both In- and Out- Patients
Brought forward ...			117	2,352	2,469	230	143	36,648
53.	Appendicitis	...	1	9	10	...	...	33
54.	Hernia and intestinal obstruction	...	4	231	235	8	13	662
55.	Cirrhosis of the liver	...	...	6	6	2	...	17
56.	Other diseases of the liver and biliary passages	...	2	32	34	11	...	195
57.	Other diseases of the digestive system	...	4	186	190	13	5	8,303
58.	Nephritis (all forms)—							
	(a) Acute	...	5	14	19	5	...	42
	(b) Chronic	...	...	16	16	4	...	53
59.	Other non-venereal diseases of the genito-urinary system		6	300	306	9	13	2,082
60.	Diseases of pregnancy, child birth and the puerperal state—		13	271	284	6	5	357
	(a) Abortion	...	1	51	52	...	1	88
	(b) Ectopic gestation	...	...	10	10	2	...	20
	(c) Toxæmias of pregnancy	...	...	59	59	3	2	65
	(d) Other conditions of the puerperal state	...	...	80	80	2	...	163
61.	Diseases of the skin, cellular tissue, bones and organs of locomotion	...	74	1,410	1,484	44	83	15,763
62.	Congenital malformations and diseases of early infancy—							
	(a) Congenital debility (children under one year)	...	...	3	3	2	...	8
	(b) Premature birth	...	...	...	...	1	...	...
	(c) Injury at birth	...	...	...	...	...	...	...
	(d) Others	...	...	1	1	1	...	14
63.	Senility	...	123	237	360	68	144	723
64.	External causes—							
	(a) Suicide	...	...	...	...	...	...	...
	(b) Other forms of violence	...	22	535	557	7	32	6,517
65.	Ill-defined causes	...	1	70	71	2	...	1,495
66.	Ante-natal and child welfare consultations	...	...	...	...	...	...	812
Total ...			373	5,873	6,246	420	441	74,060

